UNITED NATIONS

Convention to Combat Desertification

Distr.
GENERAL

ICCD/COP(3)/CST/3
8 September 1999

ORIGINAL: ENGLISH

**CONFERENCE OF THE PARTIES**
Committee on Science and Technology
Third session
Recife, 16-18 November 1999
Item 7 of the provisional agenda

# TRADITIONAL KNOWLEDGE

## Report of the ad hoc panel

Note by the secretariat

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GE.99-65826

## I. BACKGROUND

1. In accordance with decision 14/COP.2 of the Conference of the Parties, an ad hoc panel composed of ten experts was appointed with the following terms of reference:

(a) To draw upon a synthesis report (ICCD/COP(3)/CST/2) prepared by the secretariat on the most important and widely applied traditional knowledge on a regional and subregional basis and on a national scale, where appropriate, to identify successful experiences and conclusions relating to:

(i) Threats and other constraints, including socio-economic impacts, confronting such traditional knowledge and practices;

(ii) Strategies for integrating traditional and local knowledge, know-how and practices with modern knowledge based on specific case histories; and

(iii) Mechanisms for promoting and exchanging successful approaches;

(b) To report accordingly to the Conference of the Parties at its third session.

2. The ad hoc panel was subsequently convened in Matera, Italy from 15 to 18 July 1999. Mr. Jean-Claude Bomba (Central African Republic), chaired the meeting.

3. The members of the panel at the Matera meeting are listed in annex I.

4. The panel reviewed the background documents listed in annex II, which included an interesting variety of useful techniques and practices to combat desertification and reflected the value residing in the diversity of traditional knowledge.

5. Based on these documents, the panel had a rich discussion and developed a common understanding of the term "traditional knowledge" and its systemic and dynamic characteristics. The key elements of the work of the panel are summarized in the following report.

## II. COMMON UNDERSTANDING OF THE TERM TRADITIONAL KNOWLEDGE

6. The compilation of the most important and widely applied traditional knowledge on a subregional and regional basis allowed the panel to generate a common understanding of the term "traditional knowledge", which synthesizes the characteristics of traditional knowledge in its cultural diversity.

7. In the discussion on topic 1 of the agenda (see annex III) it was stated that:

(a) Traditional knowledge has an important economic role;

(b) Traditional knowledge also generates social and cultural benefits and values;

(c) Traditional knowledge is dynamic and adapts to change;

(d) Traditional knowledge needs an enabling environment to be developed and to reproduce itself;

(e) Traditional knowledge cannot just be listed, as it is not static information but rather time-, context- and actor-specific living knowledge;

(f) Traditional knowledge also integrates modern knowledge, evolves, and spreads to create regional traditions;

(g) The term "traditional knowledge" also includes very old, forgotten techniques;

(h) Traditional knowledge should not be glorified blindly but carefully evaluated in its contribution to sustainable resource management;

(i) Traditional knowledge is a plural term, indicating the diversity of the knowledge of other cultures; and

(j) Traditional knowledge is often not understood and negatively valorized by representatives of modern knowledge using top-down approaches rather than dialogue methods.

Decision

8. The panel appointed a small working group to formulate a common understanding of the term "traditional knowledge":

(a) By recalling that there is a set of terms which are used sometimes interchangeably with traditional knowledge and yet have each another meaning such as local knowledge, indigenous knowledge, endogenous knowledge, sustainable knowledge, folk knowledge, cultural knowledge etc., terms all indicating that a simple listing of various examples of traditional knowledge cannot express the specific characteristic of this type of knowledge;

(b) By recalling the background of the UNCCD as a follow-up to the United Nations Conference on Environment and Development, which arose out of the concern to combat environmental degradation through poverty alleviation and sustainable development;

(c) By reviewing the use of the term "traditional and local technology, knowledge, know-how and practices..." in the text of the Convention to Combat

Desertification (article 18.2) in four of the six official languages of the United Nations[1]; and

(d) By listening to the various dimensions of the term's meaning as used and expressed by the members of the panel.

9. The working group developed a common understanding of the term "traditional knowledge" which was thereafter adopted by panel.

Common understanding of traditional knowledge

10. Traditional knowledge consists of practical (instrumental) and normative (enabling) knowledge about the ecological, socio-economic and cultural environment.

11. Traditional knowledge is **people-centred** (generated and transmitted by people as knowledgeable, competent and entitled actors), **systemic** (inter-sectoral and holistic), **experimental** (empirical and practical), **transmitted from one generation to the next and culturally valorized.**

12. This type of knowledge promotes diversity; it valorizes and reproduces the local (internal) resources.

Successful experiences based on traditional knowledge

13. The panel members presented successful experiences of local development based on traditional knowledge in all continents and developed criteria for building on traditional knowledge to generate sustainable development at local level. A summary of the case studies presented is contained in the background documentation listed in annex II.

14. Several interesting examples were recalled; the following serve solely as a brief illustration.

15. One of the most successful techniques for the rehabilitation of strongly degraded land in the Sahel is the improved traditional planting pit or "zai". This traditional technique was improved in the early 1980's by a farmer in the Yatenga region of Burkina Faso. He increased the diameter and the depth of the traditional

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[1] By reviewing the use of the term "traditional and local technology, knowledge, know-how and practices" in four of the six official languages of the United Nations and by recalling that: CCD Traditional Knowledge (Art. 18.2)

English: Traditional and local technology, knowledge, know-how and practices ...
French: Connaissances et savoir-faire et pratiques traditionelles et locales ...
Espanol: Conocimientos tecnologias y practicas traditionales
Arab: (translated literally into English): The relevant local traditional knowledge, know-how, relevant practices and technology.

pits and put manure in them during the dry season. By concentrating water and soil fertility in one spot, millet and sorghum grow well and can survive dry spells during the rainy season. Tens of thousands of hectares of degraded land have been brought back into production in the Sahel using this technique, either on its own or in combination with another improved traditional technique, the contour stone bunds. The "zai", which in some cases are also used for tree planting, allow the regeneration of trees. For instance, in the Yatenga region of Burkina Faso, one now finds considerably more trees on farmers' fields than 15-20 years ago. One farmer remembered that he had nine trees on his barren fields in 1983, but 2000 trees in 1999, and he is not an exception. The "zai" technique has spread rapidly, because it permits a harvest in years of low rainfall (300-400 kg/ha of millet) and yields are high in good years (1,500-2,000 kg/ha). The "zai" have substantially improved food security at family level and at the same time have improved the environment. This innovation has spread across country and cultural boundaries.

16. The most widespread system characteristic of the Mediterranean area is the terracing system that can be found in the Middle East, Greece, Italy and Portugal. These sites adopt the techniques of rainfall harvesting, protected vegetable gardens, the use of organic waste for the creation of compost and fuel, the methods of passive architecture and of climate control for food storage and for energy saving as well as the practices of recycling productive and food residues. The aesthetic qualities, the beauty of natural materials, the comfort of architecture and spaces, the organic relationship with the landscape that the ancient towns of the area boast are especially due to the qualities of traditional techniques and to the search for symbiosis and harmony intrinsic in local knowledge. The survival of traditional societies in the whole Mediterranean area depends on the effective, economic and sustainable management of natural resources. In the Mediterranean area, which is characterised by intensive settlement, the environment is not only the result of natural processes, but rather represents a cultural landscape where historical centres are the crystallization of knowledge appropriate to environmental management and maintenance.

17. In the Indian Himalayas, in oases situated above 3,200 m altitude in a cold desert, the Ladakhi people obtain high crop productivity on terraces irrigated by making use of the seasonal melted snow. The careful management of water (200 mm precipitation per year) relies on the inter-relatedness between social, institutional, technological, economic and spiritual aspects of water management which are managed in a decentralized way by the oases' inhabitants themselves. They thus control their water system, which in turn is interlinked with the agricultural calendar. Processes of modernization, such as demographic growth and economic change, have not affected the rules governing the water management system. Instead the communities careful select certain modern technologies (e.g. solar energy) while rejecting others (e.g. chemical fertilization, which cannot be absorbed by these high-altitude, sandy soils).

Conservation and improvement of soils

18. The use of organic materials and mechanical barriers is a widespread practice in the Latin America and the Caribbean region, consisting of the application of diverse organic materials and other waste from agricultural and industrial production by incorporating them in the earth. The benefits are that the application of this organic material has low costs, depending on how far the material has to be transported. Therefore, it is considered desirable to use local materials. With this procedure, it is possible to obtain more economical use of water, to diminish soil erosion, to control weeds, to incorporate organic material into the soil and thus to ameliorate its chemical and physical consistency, to re-inject nutrients and to influence the thermoregulation of the soil.

19. Other successful experiences in the construction of mechanical barriers consist of the use of special plants and objects or the combination of both to build a continuous barrier of vegetation which follows the contours of the slope. These barriers reduce the flow of water, and slow run-off and erosion. After several years these barriers form small terraces which accumulate soil and water and thus become productive for agriculture. The cost of this practice is low and does not require high financial investments. The most direct benefits are a reduction of soil loss, a reduction of water loss, a reduction of slope steepness, a better diffusion of soil humidity, regulation of temperature and an increase of organic materials as well as an improvement of the physical and chemical soil conditions.

20. To evaluate whether traditional technologies can be applied successfully to combat desertification, the following criteria were identified:

(a) They must have as their objective the solution of a specific problem or various specific problems;

(b) Local cultural, social, economic, political and environmental conditions have to be considered when applying traditional technologies;

(c) The community must consider these technologies to be in accordance with its own objectives and priorities and their adoption is the result of a horizontal dialogue and not a vertical decision;

(d) The general principles of traditional technologies should be extracted and adapted to the specific local conditions;

(e) They should allow for gradual adaptation to local conditions and level of technology;

(f) Successful adoption of a traditional technology should be preceded by an open dialogue between those who propose the technology and the end-users.

## III. THREATS AND CONSTRAINTS

21. The following threats and constraints to the maintenance and development of traditional knowledge were discussed by the panel:

(a) Poverty leads to abandonment of traditional technologies (hard work and low returns on labour), but it can also act as an incentive to innovate and to invest labour in these technologies;

(b) The undermining of local entitlements to the use and management of natural resources, particularly land and water;

(c) The lack of recognition of the value and specifically the economic benefits of traditional knowledge;

(d) The failure to evaluate cultural and social effects of technological change;

(e) The failure to recognize the complementarity of traditional and modern knowledge;

(f) The non-recognition of the importance of women's roles in managing natural resources in areas affected by desertification;

(g) The lack of recognition of the role that women play as innovators in developing local technologies;

(h) The lack of recognition of the diverse and systemic (holistic) nature of traditional knowledge;

(i) Attitudes of extension services that "modern" is better and that "traditional" is backwards.

## IV. STRATEGIES TO INTEGRATE TRADITIONAL AND MODERN KNOWLEDGE

22. Taking as a starting point that traditional knowledge is in a continuous process of change, adaptation and innovation, the panel discussed the questions: What can be learned from traditional knowledge? What makes traditional knowledge successful? And how can it be linked with modern knowledge?

23. To create an enabling environment in which traditional knowledge can be maintained and further developed requires a careful analysis of the culture-specific division of roles and power relationships which determine the possible roles of innovators and the extent to which inventions are shared amongst the community. It also requires security, time and resources to embark upon risks and innovations. Important elements can be learned from the systemic and complex character of traditional knowledge which is embedded in its ecological context and cycles.

Furthermore, traditional models of development can be revitalized and provide a basis for developing a new technological paradigm. Finally, ecological and cultural side-effects of technologies should be evaluated, including considerations about the sustainability of the whole system and an analysis of its resource use (e.g. energy). The following strategies to integrate traditional and modern knowledge were suggested:

(a) To adopt a bottom-up approach in research and development which puts the farmer-innovator at the centre;

(b) External experts should learn to listen and to enter into dialogue with the knowledgeable local actors;

(c) Mechanisms to share and disseminate traditional knowledge and its innovations horizontally can be set up and supported (e.g. regional radio programmes, farmer-to-farmer networks);

(d) There is a relationship between the capacity of decision-making and the capacity of realizing innovations. Therefore, empowerment is an essential dimension of encouraging innovations, especially among women;

(e) Local entitlements on the use and management of natural resources should be strengthened and consolidated when modern knowledge or technologies enter into traditional settings;

(f) Mechanisms to valorize and recognize the achievements of knowledgeable local actors and inventors should be developed;

(g) Truly participatory bottom-up approaches to development are necessary. Their adaptation includes a change of attitude among experts. The role of external (national and international) experts should be critically assessed;

(h) Because women are essential managers of natural resources and therefore possess extensive traditional knowledge concerning the natural environment, extension services should have a better gender ratio. Furthermore, the relationship between gender, science and technology should be carefully investigated. There are very few women researchers and recognized innovators. The role of science in traditional technology has thus to be viewed from a gender perspective;

(i) Horizontal dialogues between members of different cultures and an understanding of the cultural specificity and diversity in which traditional knowledge is reproduced and expressed (in practices, in festivities, in rituals etc.) are two key elements of the anthropological methodology which permits the understanding of "agri-cultures" as complex systems of knowledge and practice. A "culture to culture" relationship should replace the "I (expert) will capacitate and instruct you" approach.

## V. MECHANISMS FOR PROMOTING AND EXCHANGING SUCCESSFUL APPROACHES

24. Several mechanisms can be used to effectively promote and exchange approaches and innovations developed by local communities, as for example:

(a) Farmer study and exchange visits should be organized in areas with similar agro-ecological conditions in such a way that their impact can be maximized through better preparation, implementation and follow-up and that women and men land managers benefit equally. Adequate restitution of information is required after participation in such visits. Furthermore, successful natural resource management experiences should be systematically collected for further use;

(b) The media can be an effective means of spreading information concerning local innovations, specifically when used in a systematic way.

## VI. RECOMMENDATIONS

25. Taking into account that local and traditional knowledge is dynamic and includes processes of innovation relevant to combating desertification, the ad hoc panel recommends that the Conference of the Parties identify and support local processes of innovation in natural resource management and include them as starting points, in the implementation of the national action programmes.

26. It therefore recommends that the Conference of the Parties:

(a) For the implementation of the national action programmes, consider:

(i) Facilitating a compilation of research and information on traditional knowledge in databases and developing adequate methods and procedures for their compilation, storage and dissemination;

(ii) Setting up a system of monitoring and backstopping and adequate mechanisms which ensure that a dialogue between communities affected by desertification, planners and external support agencies effectively takes place;

(iii) Developing and promoting adequate methodologies and procedures which ensure that action-oriented research is carried out as a truly horizontal dialogue to promote bottom-up development approaches to combating desertification;

(iv) Including farmer study and exchange visits on traditional knowledge and local innovations;

(b) Consider the content of the following activities and their implementation:

i) To monitor and follow up the mechanisms by which reciprocity between traditional and modern knowledge is being addressed and promoted as well as how cultural diversity is being recognized in the implementation of national action programmes;

(ii) To evaluate how the networks and mechanisms created by the UNCCD (regional networks, regional coordination bodies, national focal points) are incorporating traditional and local knowledge and to develop appropriate recommendations;

(iii) To ensure that the concerns identified by the ad hoc panel relating to traditional and local knowledge are included in the national action programmes and in the survey and evaluation of networks at the national level;

(c) Reappoint the present panel in order to develop appropriate criteria, methodology and mechanisms for implementation of the above-mentioned activities.

Annex I

MEMBERS OF THE AD HOC PANEL ON TRADITIONAL KNOWLEDGE APPOINTED BY THE CONFERENCE OF THE PARTIES AND CONSULTANTS PRESENTING REPORTS AT THE MATERA MEETING

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|---|---|
| Mr. Jean-Claude Bomba | Central African Republic |
| Mr. Michael Tim Hoffman | South Africa |
| Ms. Marie Nery Urquiza Rodriguez | Cuba |
| Mr. Christiaan Reij | Netherlands |
| Ms. Sunita Narain[1] | India |
| Mr. Sulemana Osman Saaka[1] | Ghana |
| Mr. Muhammad Shatanawi[1] | Jordan |
| Mr. Juan Torres Guevara | Peru |
| Mr. Ashot Vardevanyan | Armenia |
| Ms. Corinne Wacker | Switzerland |

CONSULTANTS PRESENTING REPORTS AT THE MATERA MEETING

Mr. Pietro Laureano
Ms. Rebeca Leonard
Mr. Salah Tabour

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[1] Did not attend the meeting.
[2] Present for the first two days of the meeting only.

Annex II

SELECTIVE LIST OF DOCUMENTS AND PAPERS BEFORE THE
AD HOC PANEL MEETING ON TRADITIONAL KNOWLEDGE
MATERA, ITALY, 15-18 July 1999

A. Documents of the Conference of the Parties

- ICCD/COP(2)/14/Add.1 (decision 14/COP.2)
- ICCD/COP(2)/CST/5

B. Other documents

- Synthesis on important and widely applied traditional knowledge on a subregional and regional basis and on a national scale (ICCD/COP(3)/CST/2);
- Report on traditional knowledge in dryland ecosystems (ICCD/COP(3)/CST/3/Add.2);
- Linkage of the work of the CCD on traditional knowledge with that of related conventions (ICCD/COP(3)/CST/3/Add.1);
- The system of traditional knowledge in the Mediterranean, and its classification with reference to different social groupings;
- A participatory approach to research and extension in Africa;
- Traditional knowledge and water management in cold desert areas;
- Chairman's summary on contributions made by members of the CST at its second session on traditional and local technology, knowledge, know-how and practices.

Annex III

**AD HOC PANEL MEETING ON TRADITIONAL KNOWLEDGE**
**(MATERA, ITALY, 15-18 JULY 1999)**
**AGENDA**

Location: Hotel Albergo Italia

Registration: Same as above

Thursday, 15 July 1999

| | |
|---|---|
| 09.30 - 10.00 | Registration |
| 10.00 - 10.30 | Welcoming statement by the representative of the Italian Ministry of Environment |
| 10.30 - 11.00 | Opening by Chairman |
| 11.00 - 11.30 | Remarks by the representative of the UNCCD secretariat |
| 11.30 - 12.00 | Appointment of topic Chairs and Rapporteurs |
| 12.00 - 14.00 | Lunch break |

**Topic 1: Synopsis of reports on traditional knowledge**

| | |
|---|---|
| 14.00 - 15.00 | Presentation of topic 1 |
| 15.00 - 16.15 | Discussion on topic 1 |
| 16.15 - 16.30 | Coffee break |
| 16.30 - 17.30 | Conclusion on topic 1 |

Friday, 16 July 1999

**Topic 2: Traditional techniques used in dryland areas of Asia, the Middle East, West Africa, Africa and Latin America and the Caribbean in combating desertification: a global synthesis**

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|---|---|
| 09.00 - 10.45 | Presentation of topic 2 |
| 10.45 - 11.00 | Coffee break |
| 11.00 - 11.30 | Discussion on topic 2 |
| 11.30 - 12.30 | Conclusion on topic 2 |
| 12.30 - 14.30 | Lunch break |

**Topic 3: The system of traditional knowledge in the Mediterranean, and its classification with reference to different social groupings**

And presentation of a successful experience of traditional knowledge in Africa

| | |
|---|---|
| 14.30 - 15.30 | Presentation of topic 3 |
| 15.30 - 16.45 | Discussion of topic 3 |
| 16.45 - 17.00 | Coffee break |
| 17.00 - 18.00 | Conclusion on topic 3 |

Saturday, 17 July 1999

**Topic 4: Links between the work of the CST on traditional knowledge and similar work being undertaken under other related conventions**

And presentation of a successful experience of traditional knowledge in Asia

| | |
|---|---|
| 09.00 - 10.00 | Presentation of topic 4 |
| 10.00 - 11.00 | Discussion on topic 4 |
| 11.00 - 11.15 | Coffee break |
| 11.15 - 12.00 | Conclusion on topic 4 |
| 12.00 - 14.00 | Lunch break |
| 14.00 - 17.30 | Drafting of conclusions by the Rapporteur |

Sunday, 18 July 1999

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|---|---|
| 10.00 - 13.00 | Discussion and adoption of the conclusions of the meeting |
| 13.00 | Closure of the meeting |
| 13.00 - 14.30 | Lunch break |
| 16.30 - 18.30 | Field trip and departure |

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